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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,312	04/25/2001	Andrew C. Sturges	S01022/80655 (JHM/EJR)	6679

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EXAMINER
ELLIS, RICHARD L

ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 07/29/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

		Application No.	Applicant(s)
Office Action Summary		09/842,312	STURGES ET AL.
		Examiner	Art Unit
		Richard Ellis	2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 May 2003</u> .

2a)☒ This action is **FINAL.** 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>38-57</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>38-49 and 52-57</u> is/are rejected.

7)☒ Claim(s) <u>50 and 51</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

1.   Claims 38-57 remain for examination.

2.   Applicant's submission of a terminal disclaimer against prior patent 5,961,637 is acknowledged. The terminal disclaimer is proper and has been entered. Therefore, the rejection based upon double patenting has been withdrawn as overcome by filing of a terminal disclaimer.

3.   The text of those sections of Title 35, US Code not included in this action can be found in a prior Office Action.

4.   Claims 38-42, 44-46, 48-49, and 52-53 rejected under 35 USC 102(b) as being clearly anticipated by Bruckert et al., U.S. Patent 4,742,451.

5.   Claim 43 is rejected under 35 USC § 103 as being unpatentable over Bruckert et al., U.S. patent 4,742,451, as applied to claims 38-42, 44-46, 48-49, and 52-53, <u>supra</u>.

6.   Claims 47 and 54-57 are rejected under 35 USC § 103 as being unpatentable over Bruckert et al., U.S. patent 4,742,451, as applied to claims 38-42, 44-46, 48-49, and 52-53, <u>supra</u>., in view of Cocke et al., U.S. Patent 3,577,189.

      <u>Bruckert</u> <u>et</u> <u>al.</u> and <u>Cocke</u> <u>et</u> <u>al.</u> were cited as prior art references in paper number 8, mailed December 24, 2002.

7.   The rejections are respectfully maintained and incorporated by reference as set forth in the last office action, paper number 8, mailed December 24, 2002.

8.   Applicant's arguments filed May 27, 2003, paper number 11, have been fully considered but they are not deemed to be persuasive.

9.   In the remarks, applicant argues in substance:

A)   That: "Bruckert does not anticipate claim 38. In particular, Bruckert does not disclose "instruction fetch circuitry including [sic] ... a first and second instruction fetcher for fetching, respectively, a subsequent instruction in [sic] a new instruction ... wherein said instruction fetch circuitry is operated responsive to execution of said branch instruction to fetch in parallel the subsequent instruction and the new instruction from said respective locations."

    This is not found persuasive because Bruckert et al. does indeed anticipate claim 38. As stated in applicant's own arguments, Bruckert et al. includes:

"The processor includes <u>a fetch unit that has separate portions</u>, one that retrieves operands and <u>the other that retrieves instructions</u> (Abstract). <u>When</u> the <u>fetch unit fetches a conditional branch instruction</u>, it may continue to prefetch "branch not taken" instructions using the instruction fetch portion (Abstract). The <u>fetch unit initially uses the operand fetch portion to prefetch "branch taken" instruction</u>. [sic] If it is determined that the branch is not take, [sic] the prefetch operation is aborted, otherwise the prefetch operation is allowed to continue to provide the next instruction used by the processor (Abstract).
 More particularly, <u>the fetch unit is divided into two sections, or "ports"</u>, one of which <u>fetches instructions</u> from memory (Col. 2, liens 49-51). The second section fetches operands from the memory (Col. 2, lines 51-52). <u>In response to a conditional branch instruction, the fetch unit</u> determines the address of the "branch taken" instruction stream, and <u>uses the operand fetch portion to begin prefetching instruction words from the "branch taken" instruction stream</u> (Col. 2, lines 52-56)." (emphasis added)

As seen from applicant's own remarks, which accurately describe the structure and operation of the Bruckert et al. disclosure, there is "instruction fetch circuitry" (fig. 2a, "FETCH UNIT 30") which itself includes "a first and second instruction fetcher" (the main instruction fetch "section" or "port" of unit 30, and the operand fetch "section" or "port" of unit 30 when the operand fetch section is used to "begin prefetching instruction words from the 'branch taken' instruction stream". Additionally, Bruckert et al. details that the fetching of both streams, the branch taken and branch not taken, occur in together in parallel (col. 2 lines 49-56). Accordingly, the structure disclosed by Bruckert et al. is in fact identical to the structure claimed by applicant, in that there is "instruction fetch circuitry" (FETCH UNIT 30) which internally contains two sub units, a first and a second instruction fetch unit, for the purpose of fetching both the branch taken and branch not taken paths in parallel. Accordingly, the claim is anticipated.

B) That: "Bruckert only teaches a first portion of a single fetcher that retrieves an operand specifier indicating a displacement value which determines where a branch taken instruction should be fetched. However, Bruckert does teach [sic] two fetchers that fetch a subsequent instruction and a new instruction in parallel, as Bruckert is only capable of fetching by the fetch unit 30 one instruction at a time. More particularly, Bruckert only uses the first portion to fetch operands (not instructions) that indicate (along with the program counter) an address to which a branch is taken; Bruckert does not teach two fetchers that fetch subsequent and new instructions in parallel."

This is not found persuasive because it appears that applicant is confusing the two

modes of operation of Bruckert et al.'s "FETCH UNIT 30". In Bruckert et al.'s first mode of

operation for "FETCH UNIT 30", one of the two sub units is used to fetch instructions, and

the other sub unit is used to fetch operands. However, this mode of operation is not the mode

that has been used to reject applicant's claims. It is Bruckert et al.'s second mode of operation

for "FETCH UNIT 30" which has been utilized in rejecting applicant's claims as anticipated

by the Bruckert et al. reference. And in Bruckert et al.'s second mode of operation for

"FETCH UNIT 30", he did indeed teach two fetch units that fetch subsequent and new

instructions in parallel:

> "The fetch unit is divided into two sections ... one of which fetches instructions from
> the memory ... In response to a conditional branch instruction, the fetch unit ... uses
> the operand fetch portion to begin prefetching instruction words from the "branch
> taken" instruction stream." (col. 2 lines 49-56)

Applicant's attention is drawn to the wording of the quoted Bruckert et al. section.

There are "two sections" in Bruckert et al.'s fetch unit. One of the sections "fetches

instructions" at all times. The second section, "in response to a conditional branch" is used "to

begin prefetching instruction words from the "branch taken" instruction stream". Therefore,

when Bruckert et al.'s system is operating in the mode wherein the second section is used to

"begin prefetching instruction words from the "branch taken" instruction stream" the system

disclosed by Bruckert et al. is indeed identical to that claimed by applicant. Namely that of

two instruction fetchers (section one and section two of Bruckert et al.) that fetch in parallel

the branch taken and branch not taken instruction streams.

C)   That: "Bruckert does not anticipate claim 52. As discussed above with respect to claim
        38, Bruckert does not teach two fetchers."

This is not found persuasive because as discussed above with respect to claim 38,

Bruckert et al. does indeed teach two fetchers as those two fetchers are claimed by applicant,

and therefore the reference anticipates claim 52 for the same reasons it anticipates claim 38.

10.   Claims 50-51 are objected to as being dependent upon a rejected base claim, but would

render the base claim allowable if bodily incorporated into the base claim such that the new

base claim included all of the original limitations of the base claim, any intervening claims,

and the objected claim.

11. **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a). The practice of automatically extending the shortened statutory period an additional month upon the filing of a timely first response to a final rejection has been discontinued by the Office. See 1021 TMOG 35.

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Richard Ellis whose telephone number is (703) 305-9690. The Examiner can normally be reached on Monday through Thursday from 7am to 5pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Eddie Chan, can be reached on (703) 305-9712. The fax phone numbers for this Group are: After-final: (703) 746-7238; Official: (703) 746-7239; Non-Official/Draft: (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Richard Ellis
July 28, 2003

**RICHARD L. ELLIS
PRIMARY EXAMINER**